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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/707,844 | 11/08/2000 | Hidetoshi Ishida | 0819-448 | 9493 |

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EXAMINER

FARAHANI, DANA

ART UNIT PAPER NUMBER

2814

DATE MAILED: 05/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/707,844

Applicant(s)

ISHIDA ET AL.

Examiner

Dana Farahani

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claim 3 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 3, 4, 8, 9, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Fujita (U.S. 5,485,039), previously cited.

Fujita discloses in figure 1, a semiconductor substrate 1; at least two semiconductor components 2 provided on the principle surface of the substrate; and multiple through holes, not numbered, which pass form the principle surface through the backside of the substrate and are provided in a region of the substrate between the at least tow components so as to substantially eliminate the electrical interference between the two components; and conductor film 6 is on the side faces of the through holes.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, 5, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita.

Regarding claim 2, Fujita discloses the claimed invention except for the gap between two adjacent ones of the through holes is smaller than the thickness of the substrate. Note that the specification contains no disclosure of either the critical nature of the claimed dimensions of any unexpected results arising therefrom. Where patentability is said to be based upon particular chosen dimensions or upon another variable recited in a claim, the Applicant must show that the chosen dimensions are critical. In re Woodruff, 919 F.2d 1575, 16 USPQ 2d 1934, 1936 (Fed. Cir. 1990). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the gap between two adjacent ones of the through holes smaller than the thickness of the substrate.

Regarding claims 5 and 7, Fujita discloses the claimed invention except for each component being a power-amplifying transistor. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use power-amplifying transistors as components 2 in order to use the device in a desired application, along with other circuits to be connected to the components.

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Regarding claim 6, Fujita discloses in figure 1, a semiconductor substrate 1; at least two semiconductor components 2 provided on the principle surface of the substrate; electrodes 3 of the at least two components provided on the substrate so as to substantially eliminate the electrical interference between the two components; a first group of through holes, not numbered, are under the electrodes; a first conductor film 6 provided on the side faces of the first group of through holes; a second group of through holes, which pass from the principle surface through the backside of the substrate and are provided in a region of the substrate between the components; a second conductor film 6 provided on the side faces of the second group of through holes; and a wiring layer, horizontal part of film 6, is on the back side of the substrate.

Fujita does not disclose in the embodiment of figure 1 the second group of through holes differ from the first group.

Fujita discloses in the embodiment of figure 12, a second group of through holes, different than that of the group of the embodiment of figure 1, further disclosing the embodiment of figure 12 improves productivity. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the group of the holes in the embodiment of figure 12 on the same substrate, and along with the group of the embodiment of figure 1, to take advantage of the properties of the second group (that of the embodiment of figure 12) along with the first group on the same substrate.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dana Farahani whose telephone number is (703)305-1914. The examiner can normally be reached on M-F 9:00AM - 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (703)308-4918. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9318 for regular communications and (703)872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

Dana Farahani
May 14, 2003


SUPERVISOR

TECHNICAL STAFF


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